BRIEFER ARTICLES

WILHELM PFEFFER

(WITH PORTRAIT)

WILHELM PFEFFER was born March 9, 1845, the son of a pharmacist, and died January 31, 1920. He studied at Göttingen, Marburg, Berlin, and Würzburg, taking his doctor's degree at Göttingen in 1865. He held university positions in Marburg, Bonn, Basel, and Tübingen before going to Leipzig in 1887, where he spent the rest of his life. It was here that he developed a laboratory and garden exactly according to his ideas, and this equipment probably held him at Leipzig in spite of calls elsewhere. PFEFFER probably shares with STRASBURGER the distinction of having more foreign students in his laboratory than any other German professor. His contribution to plant physiology, therefore, included not only his own researches, but also the stimulus of his ideas and methods to many productive students. He had what may be called an unusual perspective in connection with problems, seeing the various directions of attack, and the relations of results to the general field.



His publications, 96 in number, began with an ecological paper on mosses and some embryological papers, but soon passed into plant physiology. The sequence from the decomposition of carbon dioxide

by green plants, and the transformation of proteins during seed germination, to the investigation of tropisms and osmosis is familiar to all botanists. The influence of this work on osmosis extended beyond the botanical field into physics and chemistry. Of more general interest is his *Handbuch der Pflanzenphysiologie*, a notable reference text, the second edition of which was translated into English by EWART.

A sketch of PFEFFER's scientific career has appeared in *Science* (51:291. 1920), so that I shall attempt to supplement this by the presentation of some personal traits. When known to the writer PFEFFER lived in the second story of the Botanical Institute in the University Botanical Garden. He was a tall man and spare, with black hair and beard, and with a pleasing and kindly face that immediately put one at ease in meeting him. The portrait accompanying this sketch makes him look more austere than was his wont, otherwise it represents him as he looked in 1892, at the age of 48.

PFEFFER was a hard and continuous worker, and was rarely absent from the Institute, except for the four to six weeks' vacation which he generally took with his family in August and September in Switzerland or on the Baltic. He arose at six in the morning, lectured at seven, worked in his own rooms until eleven, then made the rounds of his students' tables, gave the noon hour to visitors, had luncheon, and worked again until five. From five to six he walked, and generally worked again in the evening. Besides keeping himself informed on the progress of science, especially physics and chemistry, he was always on the watch for new apparatus and new mechanical devices. Leipzig maintained a continuous mechanical and electrical exposition, and this PFEFFER frequently visited. He delighted in contemplating every new machine.

PFEFFER's attitude toward his students was friendly and cordial. Regularly he visited the research laboratories at eleven, discussed with each man his problem, designed apparatus, and pointed out lines of experiment, frequently calling in the first assistant to receive direction for providing what the worker needed. If any student needed more time than could be given in the forenoon visit, the Professor would come again in the afternoon. The first assistant was always conversant with the work of each student, and made the rounds forenoon and afternoon, besides always being on call when any help was needed. Each research man was given a key admitting him to the laboratory, and no restrictions were placed on his coming or going. Under PFEFFER's rule work had to make progress. There was patience, but there was

insistence on continuous work. Although students, especially the German students, treated the *Geheimrath* with the greatest deference, PFEFFER opened the way to the greatest freedom of intercourse, and the *Botanischer Abend*, held twice a month in some small room of a hotel, and attended by staff and research students, was notably a social occasion, giving opportunity for lively discourse and debate.

As was the lot of many other intellectuals in Europe, PFEFFER'S last days fell upon evil times. The bare necessities of life were difficult to obtain; his only child, a son of 34 years, who had attained some prominence as a chemist, was killed in battle near the close of the war; the end of his professorship was near, by the rules of the new government; his country had fallen from her commanding position. The burden was too much for his sensitive soul, and it crushed him. Yet his life was successful beyond that of most men. There are few fields in plant physiology that have not been extended by his researches. Physics, chemistry, and general biology have profited by his classical monographs. His pupils are professors and teachers over the whole world.—F. C. NEWCOMBE, *University of Michigan, Ann Arbor, Mich.*